

**THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA**

DOCKET NO. 2017-292-WS

In the Matter of)
)
Application of Carolina Water Service,)
Inc. for an Adjustment of Rates and)
Charges and Modifications to Certain)
Terms and Conditions for the Provision of)
Water and Sewer Service)

**REHEARING DIRECT TESTIMONY
OF
KEVIN LAIRD**

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 **A. My name is Kevin Laird and I work at 101 E. Washington Street, Suite 200, Greenville,**
3 **SC 29601.**

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 **A. I am Regional Vice President of the professional engineering and architecture firm**
6 **Goodwyn Mills and Cawood, Inc. for the South Carolina market and serve on its Board of**
7 **Directors.**

8 **Q. WHAT ARE YOUR DUTIES IN YOUR CURRENT POSITION?**

9 **A. I currently lead the firm's South Carolina operations. I am responsible for business**
10 **development, financials, management of South Carolina staff, and operations.**

11 **Q. WHAT IS YOUR EDUCATION AND PROFESSIONAL BACKGROUND?**

12 **A. I am a licensed South Carolina professional engineer with more than 18 years of**
13 **experience working with water and wastewater utilities. I am a member of the American Water**
14 **Works Association and the Water Environment Association of South Carolina. I graduated from**
15 **Clemson University in 1998 with a B.S. in Environmental Science, from Clemson University in**

1 2000 with a B.S. in Civil Engineering, and from Auburn University in 2003 with a Masters in
2 Civil Engineering.

3 **Q. IS GOODWYN MILLS AND CAWOOD INC. (GMC) OR ITS AFFILIATES**
4 **CURRENTLY PERFORMING SERVICES FOR CAROLINA WATER SERVICE?**

5 **A.** Yes, both GMC and its contract operations affiliate, Clearwater Solutions, Inc., are
6 providing professional services to Carolina Water Service Inc. (CWS). Clearwater was hired to
7 operate the Friarsgate Wastewater Treatment Facility (WWTF) on February 23, 2018 and will
8 continue to operate the plant until it is interconnected to the City of Columbia's facilities. GMC
9 has been retained by the Company to work on several projects, including (1) engineering for the
10 Forty Love Point subdivision LETTS system remediation, (2) engineering for the Shandon to
11 Carrolton Place well interconnection, (3) water modeling, system capacity analysis, and demand
12 projections for the Lake Wylie Area System, (4) GIS conversion of CWS system maps, (5)
13 consulting services regarding the Friarsgate WWTF interconnection project, (6) utility relocation
14 design for the widening of Hwy 557, and (7) Operational and Asset Evaluation.

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 **A.** The purpose of my testimony is to provide the Commission with a status update on the
17 Friarsgate WWTF Equalization basin (EQ basin) remediation and liner repair project. In addition,
18 I will provide testimony that confirms that the remediation of the EQ basin would have been
19 required regardless of whether the EQ basin is placed back into service.

20 **Q. WHAT IS THE STATUS OF THE EQ BASIN REMEDIATION AND LINER**
21 **REPAIR PROJECT?**

22 **A.** The project is currently on hold pending this Commission's approval of the Company's
23 Interconnection Agreement with the City of Columbia filed on August 2, 2018, in Docket No.

1 2018-256-S and the Midlands Region Council of Governments' approval of an amendment to the
2 208 Water Quality Management Plan that would permit the equalization basin to remain in
3 operation after decommissioning of the Friarsgate WWTF. Continued operation of the EQ basin
4 is a condition of the interconnection agreement with the City. Approval of the 208 Plan amendment
5 is expected in August.

6 **Q. ARE YOU FAMILIAR WITH THE DHEC CONSENT ORDER REQUIRING**
7 **REMEDICATION OF THE EQ BASIN?**

8 **A.** Yes, I have reviewed Consent Order 16-039-W (Consent Order) executed by the Company
9 and SCDHEC on December 22, 2016. I have also reviewed the Company's subsequent corrective
10 action plan letter submitted to the Department. A copy of the Consent Order is submitted as Exhibit
11 KL-1 and a copy of the Corrective Action Plan is attached as Exhibit KL-2 to my testimony.

12 **Q. CAN YOU BRIEFLY SUMMARIZE WHAT ACTIONS THE COMPANY WAS**
13 **REQUIRED TO TAKE AS A RESULT OF THE CONSENT ORDER?**

14 **A.** The Consent Order requires the Company to "remove and properly dispose of the solids
15 and grit from the EQ Basin and complete repairs to the EQ Basin liner." Consent Order 16-039-
16 W, Paragraph 5 at pp 6-7. To comply with the Consent Order, the Company provided a Corrective
17 Action Plan to the Department on March 22, 2017 that provided the following commitments. First,
18 the sludge was to be removed and the basin was to be cleaned properly. Once the sludge was
19 removed and the basin was properly cleaned, a temporary equalization basin flow connection was
20 required to the influent pump station in order to isolate the EQ Basin for repairs to the EQ Basin
21 liner. The EQ Basin liner was rehabilitated which required some earthwork in order to properly
22 repair the liner.

1 **Q. IN YOUR OPINION, WOULD EXPENSES OF THE EQ BASIN REMEDIATION**
2 **HAVE BEEN REQUIRED ABSENT THE COMPANY’S PLAN TO REPLACE THE**
3 **LINER?**

4 **A.** Yes. In fact, the remediation is the focus of this Consent Order provision. After specifying
5 the requirement to remediate the basin and complete repairs to the liner, the Consent Order
6 paragraph in question concludes by saying, “Once approved by the Department, implement the
7 removal and disposal project.” Id. at 7. The Department notably did not refer to it as a repair
8 project. Additionally, as I note below, repairing the EQ basin was not a given because of the
9 potential for an interconnection of the plant as required by the Company’s NPDES Permit once a
10 regional provider had sufficient treatment capacity.

11 **Q. AT THE TIME THE COMPANY COMMENCED THE REMEDIATION WORK**
12 **REQUIRED BY THE CONSENT ORDER IN SEPTEMBER 2017, DID THE COMPANY**
13 **PLAN TO INTERCONNECT THE FRIARSGATE WWTF TO THE CITY OF**
14 **COLUMBIA?**

15 **A.** No. As Company Witness Cartin has testified, the Company undertook the remediation
16 phase of the EQ basin project prior to being notified by DHEC in November 2017 that regional
17 wastewater service providers had available capacity to take the Friarsgate WWTF flows.

18 **Q. WHAT IMPACT DOES THE INTERCONNECTION HAVE ON THE EQ BASIN**
19 **WORK REQUIRED BY THE CONSENT ORDER?**

20 **A.** The interconnection has no impact on the remediation of the basin as required by the
21 Consent Order. The interconnection does, however, impact the EQ basin repair phase of the
22 project. The solids and grit removal and disposal had to be done regardless of any work that would
23 follow to either decommission the EQ basin or repair it to place it back into service. Because the

1 City of Columbia is requiring the Company to maintain equalization capabilities as a condition in
2 the interconnection agreement, the EQ basin cannot be decommissioned after interconnection. The
3 physical interconnection with the City's facilities and the changed operational characteristics of
4 the EQ basin, which transition from being used to support daily treatment and flow management
5 for an operating WWTF to storage for peak flow management by the City, necessitate different
6 design criteria for the repair of the EQ basin.

7 **Q. PLEASE DESCRIBE WHAT DESIGN CHANGES WILL BE MADE TO THE EQ**
8 **BASIN REPAIR AS PART OF THE INTERCONNECTION PROJECT.**

9 **A.** The design changes to the EQ Basin are related to the new use of the basin. A new pump
10 station and flow meter will be constructed/installed for conveyance of the flow to the City of
11 Columbia interconnection and new piping to this pump station will be required within the EQ
12 Basin. In addition, the EQ Basin will be regraded to slope to the new pump station in an effort to
13 completely drain the basin when not needed for flow control. Floating aerators with draft tubes
14 and erosion pads also will be installed.

15 **Q. HOW LONG DO YOU EXPECT THE INTERCONNECTION PROJECT TO**
16 **TAKE TO COMPLETE?**

17 **A.** Approximately 11 months from the time the Notice to Proceed is received from the
18 Company.

19 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

20 **A.** Yes

EXHIBIT KL-1



December 29, 2016

FIRST CLASS and
CERTIFIED MAIL – 9214 8969 0099 9790 1406 9750 05

Carolina Water Service, Inc.
Attn: Bob Gilroy
150 Foster Brothers Drive
West Columbia, S.C. 29172

Re: **Consent Order 16-039-W**
Carolina Water Service, Inc.
NPDES Permit SC0036137
Lexington County

Dear Mr. Gilroy:

Enclosed, please find fully executed Consent Order 16-039-W for the above referenced facility. The Order is considered executed on December 22, 2016.

If you have any questions, please contact Mr. Paul Wise at (803) 898-4181 or by e-mail at paul.wise@dhec.sc.gov.

Sincerely,

Adam Cannon, Manager
Bureau of Water - WP Control Division
WP Enforcement Section

cc: Jaime Teraoka, SCDHEC, WP Compliance Section
SCDHEC, BEHS Region
Michael Montebello, SCDHEC, Water Facilities Permitting
Haynsworth Sinkler Boyd, P.A., Attn: Carlisle Roberts
Carolina Water Service Inc, via Corporation Service Co., 1703 Laurel Street, Columbia SC 29201
Main File

Attachment as stated

**THE STATE OF SOUTH CAROLINA
BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL**

**IN RE: CAROLINA WATER SERVICE, INC.
FRIARSGATE SUBDIVISION
LEXINGTON COUNTY**

CONSENT ORDER

1 6 - 0 3 9 - W

Carolina Water Service, Inc. (CWS) owns and is responsible for the proper operation and maintenance of the wastewater treatment facility (WWTF) located off of Irmo Drive, serving the residences of Friarsgate Subdivision, in Lexington County, South Carolina.

CWS's effluent limits for fecal coliform (Fecal) as contained in its National Pollutant Discharge Elimination System (NPDES) Permit were exceeded.

Following approved procedures and based upon discussions with representatives for CWS on August 19, 2016, and without admission by CWS of the allegations contained herein, in order to resolve the matter expeditiously, the Parties have agreed to the issuance of this Order.

FINDINGS OF FACT

1. CWS owns and is responsible for the proper operation and maintenance of the WWTF serving the residents of the Friarsgate Subdivision located in Lexington County, South Carolina.
2. The Department issued NPDES Permit SC0036137 (NPDES Permit) to CWS, authorizing the discharge of properly treated wastewater to the Saluda River, in accordance with the effluent limitations, monitoring requirements, and other conditions

set forth therein.

3. Part 1A of the NPDES Permit establishes the following effluent limitations for fecal coliform: The facility is required to monitor and report results for Fecal Coliform weekly. The NPDES Permit limits are two hundred (200) colonies per one hundred (100) milliliters (monthly average) and 400 colonies per one hundred (100) milliliters (daily maximum).
4. Investigations by the Department, including water quality sampling on June 13, 2016, and June 15, 2016, revealed elevated levels of bacteria at the Friarsgate WWTF discharge pipe in the Saluda River and the effluent discharge at the Friarsgate WWTF. Additional water quality samples were collected in the Saluda River and at the Friarsgate WWTF during June 2016.
5. Sample results of the investigation during June 2016 are as follows:
Bacteriological Sample Results at the WWTF and in Saluda River:
(reported in colonies per 100 milliliters)

Date	Parameter	Sample Station		
		Friarsgate 001 at WWTF after all treatment	007 after UV banks	002A Friarsgate discharge in the Saluda River
6/13/16	Escherichia coli	N/A	> 2419.6	866.4
6/20/16	Fecal Coliform	> 4839.2	N/A	N/A
6/21/16	Fecal Coliform	1597	N/A	N/A
6/23/16	Fecal Coliform	> 24196	< 10	N/A
6/24/16	Fecal Coliform	602	10	976.8
6/25/16	Fecal Coliform	471	31	334
6/26/16	Fecal Coliform	987	1	920.8
6/27/16	Fecal Coliform	6488	< 1	1376

6/28/16	Fecal Coliform	878	1	332
6/29/16	Fecal Coliform	2098	< 1	N/A
6/30/16	Fecal Coliform	2481	140.1	N/A

6. On August 1, 2016, the Department received the discharge monitoring report (DMR), submitted by CWS for the June 2016 monitoring period, which reported violations of the Fecal limits in the NPDES Permit.
7. On August 19, 2016, Department Staff conducted an enforcement conference to discuss the above findings with Mr. Bob Gilroy, Vice President of Operations, Carl Roberts, Haynsworth Sinkler Boyd, and Jimmy Holland, WK Dickson Engineering, appearing for CWS. The issuance of a Consent Order possibly containing civil penalties was discussed.
8. CWS reported violations of limits for Fecal in the NPDES permit on a DMR submitted to the Department for the July 2016 monitoring period. The DMR was received on August 31, 2016.

CONCLUSIONS OF LAW

Based upon the above Findings of Fact, the Department reaches the following Conclusions of Law:

1. CWS violated the Pollution Control Act, S.C. Code Ann. § 48-1-110 (d) (Supp. 2015) and Water Pollution Control Permits, 3 S.C. Code Ann. Reg. 61-9.122.41 (a) and (d) (2014), in that it failed to comply with the effluent limits for Fecal contained in its NPDES Permit.
2. The Pollution Control Act, S.C. Code Ann. § 48-1-330 (Supp. 2015), provides for a civil penalty not to exceed ten thousand dollars (\$10,000.00) per day of violation for any

person violating the Act or any rule, regulation, permit, permit condition, final determination, or Order of the Department.

NOW, THEREFORE, IT IS ORDERED, CONSENTED TO AND AGREED, pursuant to the Pollution Control Act, S.C. Code Ann. § 48-1-50 (Supp. 2015) and § 48-1-100 (Supp. 2015), that CWS shall:

1. Within ninety (90) days of the execution date of this Order, submit to the Department three (3) copies of a Corrective Action Plan (CAP), to include a schedule of implementation, reporting the corrective actions that have been taken and any corrective actions planned to adequately address the potential sources contributing to the Fecal violations. The schedule of implementation shall have specific dates or timeframes for the completion of any planned actions and details as to how each action effectuates compliance with the effluent discharge limits of NPDES Permit SC0036137. The schedule for implementation of specific corrective action steps proposed under the CAP shall be evaluated and, upon Department approval, the schedule(s) shall be incorporated into and become an enforceable part of this Order.
2. Within thirty (30) days of the execution date of this Order submit to the Department an updated Operation and Maintenance (O&M) Manual with standard operating procedures (SOPs) and checklists for the operation of all aspects of the WWTF treatment processes and sludge management, to include at a minimum, process control observations, testing schedules, bench sheets, log entries, etc. as prescribed by a S.C. Registered Professional Engineer. The O&M Manual shall be reviewed and approved by the Department. Upon Department approval the updated O&M Manual shall be implemented by CWS.
3. Continue to conduct sampling of the WWTF final effluent for fecal coliform on a daily

basis until notified otherwise in writing by the Department. CWS may request approval from the Department to resume the sampling interval provided in the Permit at any time subsequent to thirty (30) days after the execution date of this Order. Provide the results (laboratory reports) to the Department via email within twenty four (24) hours after CWS' receipt of reports. Notify the Department via telephone within four (4) hours of becoming aware of an exceedance of fecal limits. During normal working hours call (803)-898-4300. After hour reporting should be made to the Department's 24 hour Emergency Response telephone number (803)-253-6488.

4. Modify the Comprehensive Process Control Testing and Evaluation Program to include, at a minimum, the following determinations:

- a) Settleometer tests (SSV₅ and SSV₃₀)/daily.
- b) Sludge blanket depths in individual clarifiers/at least twice per day (a.m./p.m.).
- c) Dissolved oxygen profile throughout individual aeration basin/twice per day.
- d) Microscopic examination/at least once per week.
- e) Mixed Liquor Suspended Solids (MLSS) and Mixed Liquor Volatile Suspended Solids (MLVSS) in individual aeration basins/at least two times per week.
- f) Select and utilize at least one of the following most commonly used activated sludge process control techniques:

<u>Control Technique</u>	<u>Frequency</u>	<u>Determination</u>
F:M	3/week	Based on 5 day moving average.
MLVSS	3/week	Volatile solids inventory.
SVI	2/month	
MCRT	3/week	Based on 3-5 day moving ave.
SRT	2/month	
F:M	=	Food to Microorganism Ratio
MLVSS	=	Mixed Liquor Volatile Suspended Solids

SVI = Sludge Volume Index

MCRT = Mean Cell Residence Time

SRT = Sludge Retention Time

- g) Influent, effluent, return sludge, and waste activated sludge flow rates (gpd or mgd)/daily.
- h) Return activated sludge and waste activated sludge concentrations (mg/L) and loading (lbs)/at least three times per week.
- i) Influent pH, biochemical oxygen demand (BOD), and total suspended solids (TSS) at the frequency required by the permit, and add ammonia monitoring at frequency of twice per week.
- j) Effluent pH, dissolved oxygen, BOD and TSS at the frequency required by the permit, and add ammonia monitoring at frequency of twice per week.
- k) Rainfall/daily.
- l) Prepare a table of all determinations obtained from a) – k) above for the calendar month with the exception of microscopic examinations [d) above] which should be recorded on separate worksheets detailing relative predominance of organisms.
- m) Develop trend charts for those tests or parameters which provide the most useful plant performance information on which to base control decisions.

Prepare a written summary report of interpretations of required process control determinations a) – k) and subsequent process adjustment decisions and/or corrective actions based on these interpretations.

Submit to the Department, on a monthly basis, items l) and m) beginning the month following the execution date of this Order, to be postmarked no later than the 28th day of the month following the reporting period.

5. Within thirty (30) days from the execution date of this Order, submit to the Department a project timeline for CWS to remove and properly dispose of the solids and grit from the

EQ Basin and complete repairs to the EQ Basin liner. Once approved by the Department, implement the removal and disposal project.

6. For a period to be determined by the Department, but no later than the term of this order, begin utilizing the services of an independent laboratory to conduct sampling activities required in the NPDES Permit.
7. For a period to be determined by the Department, but no later than the term of this order, utilize the services of an independent certified operator, under the direction of a S.C. Registered Professional Engineer, to operate the WWTF.
8. Within thirty (30) days of the execution date of this Order, submit a staffing plan to address adequate operations and maintenance at the facility. Once approved by the Department, implement the staffing plan.
9. Within thirty (30) days of the execution date of this Order, provide a report of any chemicals, polymers, or bioremediation enzymes that may have been added (with prior Department approval) including time, date, location and quantity as well as any impact on the treatment plant performance.
10. Within thirty (30) days of the execution date of this Order, submit a recommendation for cleaning and maintenance of the UV system, the bulb replacement schedule, the sleeve cleaning schedule, and recording transmittance. Once approved by the Department, CWS shall implement the UV maintenance schedule.
11. Within ninety (90) days of the execution date of the Order, pay to the Department a civil penalty in the amount of seventy eight thousand nine hundred forty dollars (\$78,940.00).

PURSUANT TO THIS ORDER, communications regarding this Order and its requirements, including civil penalty payments, shall be addressed as follows:

Paul F. Wise
Water Pollution Control Division
South Carolina DHEC
2600 Bull Street
Columbia, S.C. 29201

The order number should be included on all checks remitted as payment of the civil penalty.

IT IS FURTHER ORDERED AND AGREED that failure to comply with any provision of this Order shall be grounds for further enforcement action pursuant to the Pollution Control Act, S.C. Code Ann. § 48-1-330 (2015), to include the assessment of additional civil penalties.

IT IS FURTHER ORDERED AND AGREED that CWS does not admit any of the allegations, including Findings of Fact and Conclusions of Law, contained in this Order, but that CWS is entering into this Order in order to expeditiously resolve the issues referenced herein.

IT IS FURTHER ORDERED AND AGREED that CWS may request amendment of this Consent Order, and this Order may be amended as agreed to by the parties.

IT IS FURTHER ORDERED AND AGREED that this Consent Order governs only the civil liability to the Department for civil sanctions arising from the matters set forth herein and constitutes the entire agreement between the Department and Carolina Water Service, Inc. with respect to the resolution and settlement of these civil matters. The parties are not relying upon any representations, promises, understandings or agreements except as expressly set forth within this Order.

[Signature Page Follows]

**FOR THE SOUTH CAROLINA DEPARTMENT
OF HEALTH AND ENVIRONMENTAL CONTROL**



Myra C. Reece
Director of Environmental Affairs

Date: 12/22/16



David G. Baize, Chief
Bureau of Water

Date: 12/22/16



Glenn E. Trofatter, Director
Water Pollution Control Division
Bureau of Water

Date: 12/22/16

Reviewed By:



Attorney
Office of General Counsel

Date: 12/21/16

WE CONSENT:

CAROLINA WATER SERVICE, INC.



Bob Gilroy
Vice President of Operations

Date: 12/21/2016

EXHIBIT KL-2



March 22, 2017

Mr. Paul F. Wise
 SCDHEC - Water Pollution Control Division
 2600 Bull Street
 Columbia, SC 29201

RE: Consent Order 16-039-W
Carolina Water Service, Inc. - Friarsgate WWTF
NPDES Permit #SC0036137
WK Dickson Project #20170019.00.CA

Dear Mr. Wise:

In response to Item 1 listed on the above referenced consent order, the following Corrective Action Plan (CAP) has been prepared for the Friarsgate Wastewater Treatment Facility (WWTF). This CAP will present actions that have been taken to date, and future actions and future actions planned to optimize the facility.

Actions Taken to Date:

- Updated Operation and Maintenance Manual
 - As previously addressed under a separate submittal to you dated, January 23, 2017 to satisfy Item 2 of the above referenced consent order, the Operation and Maintenance (O&M) Manual was updated and submitted to your department. The updated O&M manual provides detailed information regarding operation and maintenance of the various components throughout the WWTF.
- Temporary Chlorination and Dechlorination Systems
 - Carolina Water Service, Inc., added chlorination and dechlorination systems following the UV disinfection units to provide additional disinfection of the wastewater effluent. The chlorination system consists of chemical totes and a peristaltic pump for the sodium hypochlorite solution injection following the UV system. The dechlorination system consists of tankage, a mixing system, and peristaltic pump for the sodium thiosulfate solution injection to dechlorinate the effluent.
- Cleaning and Lining of Effluent Pump Station Basin
 - The effluent pump station basin was cleaned, patched and lined in an effort to minimize potential sources of contamination of the treated effluent prior to being discharged to the Saluda River. It should also be noted that the basin was also chemically shocked with sodium hypochlorite in an attempt to eliminate any source of fecal contamination prior to lining.

a Utilities, Inc. company **Carolina Water Service, Inc.**

- Clarifier Spray System
 - A sprayer system including a peripheral line with nozzles was added to each of the clarifiers in an effort to reduce the surface tension by disturbing the water surface and promoting the settlement of floc. The system is used primarily when floc develops on the surface of the clarifier(s).
- Chemical Additions
 - As previously addressed under a separate submittal to you dated, January 23, 2017 to satisfy Item 9 of the above reference Consent Order, chemical additions were added to both plants to aid in the stabilization of both WWTPs. A copy of this document, titled "Chemical Usage Report," is attached to this document for reference.
- Chlorination of the return activated sludge
 - To reduce floc and sludge bulking, the return activated sludge (RAS) was chlorinated. Chlorination of the RAS is a common method utilized in active sludge wastewater treatment systems when there is an excessive amount of floc and bulking. This was also detailed with the attached "Chemical Usage Report."
- Cleaning out the basin prior to the UV System
 - Due to the high volume of the previously produced floc that settled in the basin prior to the UV system, this basin was cleaned and vacuumed out in an effort to eliminate another potential source of fecal coliform contamination. Additionally, this cleaning also removed most of the sludge from the bottom of the basin.
- Trojan UV 3000 Operation and Maintenance Memo
 - As previously addressed under a separate submittal to you dated, January 23, 2017 to satisfy Item 10 of the Consent Order, a document titled "Trojan UV 300 Operation and Maintenance." This document was developed to outline the Operation and Maintenance procedure for the UV system to provide more detailed information for operation and maintenance requirement of the UV system. A copy of this document is attached for reference.
- Temporary Equalization Basin Flow Connection to Influent Pump Station
 - A temporary system has been installed from the equalization (EQ) basin to the influent pump station (IPS) to return wastewater temporarily stored in the EQ basin back to the IPS. Currently, flow from the EQ basin can only be returned to the oxidation ditch (WWTP "A") but not to the package plant (WWTP "B") which limits the flexibility and capacity of the overall facility to accommodate stored flow from the EQ basin. The temporary system utilizes small pontoons, a submersible pump and a flexible hose. The small pontoons are used to suspend a small submersible pump in the EQ basin, to minimize disturbance of the aged sludge and debris. The flexible hose is connected to the submersible pump and routed above grade to the IPS, such that flow can be pumped directly into the IPS, where it is then sent to the static screens and flow splitting box going to both plants.

Mr. Paul F. Wise
March 22, 2017
Page 3 of 3

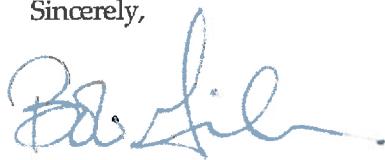
Actions Planned:

- Equalization Basin Cleaning and Relining
 - As detailed within Item 5 of the consent order and previously submitted on January 23, 2017, it is proposed to clean out and reline the equalization basin. The schedule associated with this item is detailed within the attached document entitled, "Equalization Basin Rehabilitation and Repair." Cleaning out and relining the equalization (EQ) basin will remove aged sludge and debris from the EQ basin, and therefore minimize the potential for septic sludge being introduced to either treatment train at the Friarsgate WWTF.

We look forward to your response and approval of these action plan items.

Should you have any questions or need additional information, please do not hesitate to contact us at (803) 786-4261.

Sincerely,

A handwritten signature in blue ink, appearing to read "Bob Gilroy".

Bob Gilroy
Vice President of Operations
Carolina Water Service, Inc.